

WE CLAIM:

1. An apparatus for directing communications over a network, comprising:
 - (a) a control component that receives a data flow requesting a resource and determines when the data flow is unassociated with a connection to a requested resource, wherein the control component associates a selected connection to the requested resource when the control component determines the data flow is unassociated with the connection to the requested resource; and
 - (b) a switch component that employs the connection associated with the data flow to direct the data flow to the requested resource, wherein a capacity of the switch component and a capacity of the control component are independently scalable to support the number of data flows that are directed to requested resources over the network.
2. The apparatus of Claim 1, wherein the control component employs a buffer to list each data flow that is associated with the connection to the requested resource.
3. The apparatus of Claim 1, wherein the control component employs a table to list each data flow associated with the connection to the requested resource.
4. The apparatus of Claim 1, wherein the control component categorizes a plurality of data packets for each data flow.
5. The apparatus of Claim 1, wherein the control component determines when an event associated with the data flow occurs.
6. The apparatus of Claim 5, wherein the control component categorizes each event.
7. The apparatus of Claim 1, further comprising a flow signature that is associated with the data flow, the flow signature is compared to a set of rules for handling each data flow that is associated with the connection to the requested resource.
8. The apparatus of Claim 7, wherein the flow signature includes information about a source and a destination for each data packet in the data flow.

9. The apparatus of Claim 7, wherein the flow signature includes a timestamp.
10. The apparatus of Claim 1, wherein the switch component collects metrics regarding each connection to each resource.
11. The apparatus of Claim 1, further comprising a server array controller that includes the action of the control component and switch component.
12. An apparatus for directing communications over a network, comprising:
 - (a) a flow component that receives packets associated with a flow and switches each received packet associated with the flow to a connection; and
 - (b) a control component that determines the connection based on information collected by the flow component, wherein the flow segment and the control segment are independently scalable to handle the number of data flows that are directed to requested resources over the network.
13. The apparatus of Claim 12, wherein the control component performs control and policy enforcement actions for each flow.
14. The apparatus of Claim 12, wherein the flow component collects information regarding each flow including metrics and statistics.
15. The apparatus of Claim 14, wherein the control component performs load balancing for each flow based on the information collected by the flow component.
16. The apparatus of Claim 12, further comprising a primary control component and a secondary control component, wherein a load is shared between the primary and secondary control components and when the primary control component is inoperative, the secondary control component takes over the actions of the primary control component and the flow component provides the state information for each flow.
17. The apparatus of Claim 12, further comprising a server array controller that includes the control component and the flow component.
18. The apparatus of Claim 17, wherein the server array controller includes an interface for internal and external networks.

19. The apparatus of Claim 12, further comprising a flow signature that is associated with each flow.

20. The apparatus of Claim 12, further comprising a timestamp that is associated with each flow, wherein the control component employs the timestamp to determine factors used for load balancing, the factors include most active, least active, time opened and most recent activity.

21. The apparatus of Claim 12, further comprising a session that is associated with the flow, the session including TCP and UDP.

22. The apparatus of Claim 12, wherein the control component determines when a new flow occurs based on the detection of an event.

23. A method for directing communications over a network, comprising:

(a) employing a control component to receive a data flow requesting a resource and determining when the data flow is unassociated with a connection to a requested resource, wherein a selected connection is associated with the requested resource when the data flow is unassociated with the connection to the requested resource; and

(b) employing the connection associated with the data flow to switch the data flow to the requested resource, wherein the switching capacity and the control capacity are independently scalable to support the number of data flows that are directed to requested resources over the network.

24. The method of Claim 23, further comprising sending state information as multicast messages and other information as point cast messages.

25. The method of Claim 23, further comprising responding to messages that are authenticated.

26. The method of Claim 23, further comprising employing a state sharing message bus (SSMB) between a switch and a control component.

27. The method of Claim 26, further comprising layering the SSMB on top of a session, the session including TCP and UDP.

28. The method of Claim 26, further comprising asynchronous and independent communication between the control component and the switch.

29. The method of Claim 23, further comprising associating a flow signature with each flow.

30. The method of Claim 23, further comprising comparing when the data flow is associated with the connection to the requested resource and when the interface component determines that the data flow is unassociated with the connection to the requested resource, wherein the comparison is employed to determine the data flow's association with the connection to the requested resource.

31. An apparatus for directing communications over a network, comprising:

(a) means for a control component that receives a data flow requesting a resource and determines when the data flow is unassociated with a connection to a requested resource, wherein the control component associates a selected connection to the requested resource when the control component determines the data flow is unassociated with the connection to the requested resource; and

(b) means for a switch component that employs the connection associated with the data flow to direct the data flow to the requested resource, wherein a capacity of the switch component and a capacity of the control component are independently scalable to support the number of data flows that are directed to requested resources over the network.